

UAS for Wildfire Science: NightFOX

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CIESRDS

Cooperative Institute for Earth Systems
Research and Data Science

Wildfires are critical for understanding climate



Photo Credit: Reuters

We need more high-resolution wildfire heat data

Satellites alone are not sufficient

Aircraft campaigns are expensive

Better data means:

- Better forecasts (smoke, fire spread)
- Safer firefighters



Potential solution: Uncrewed Aerial Systems

UAS are cheaper
and much safer

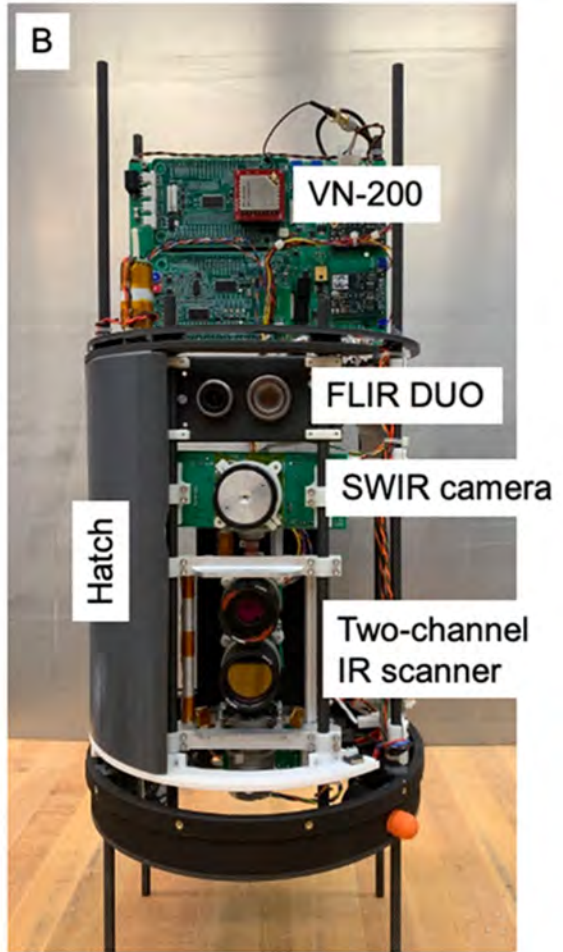
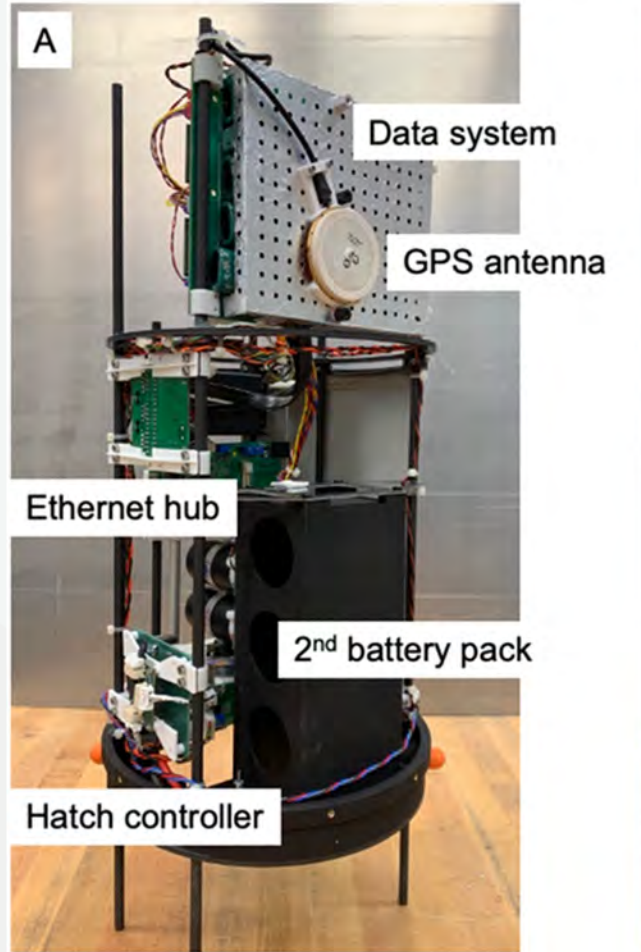
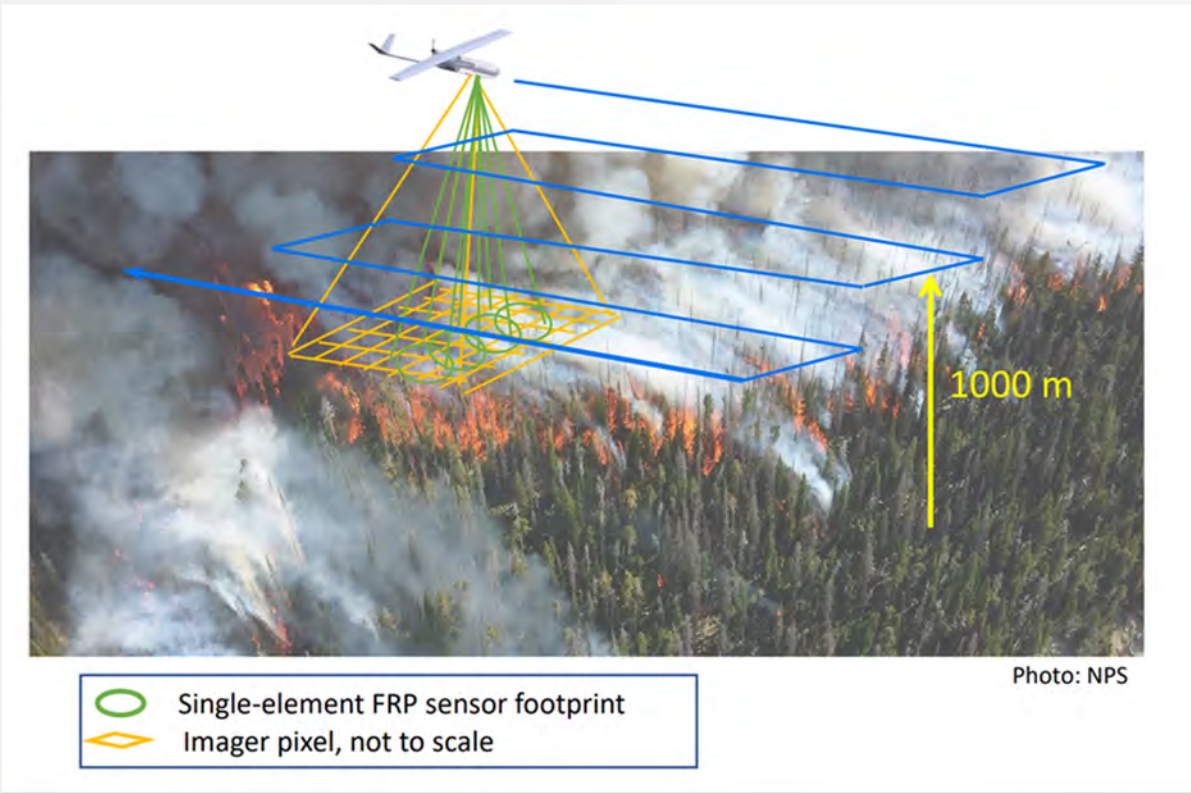
Is it possible to
get science-grade
measurements?



Photo Credit: USDA Forest Service

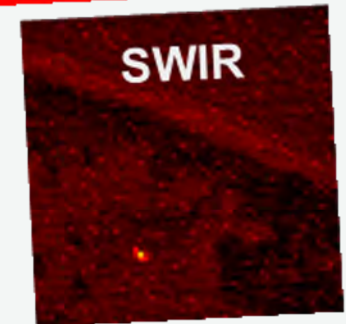
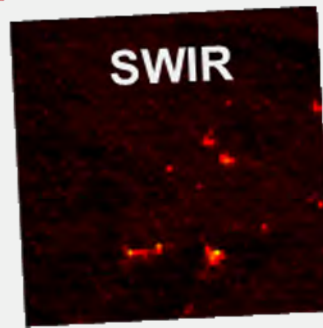
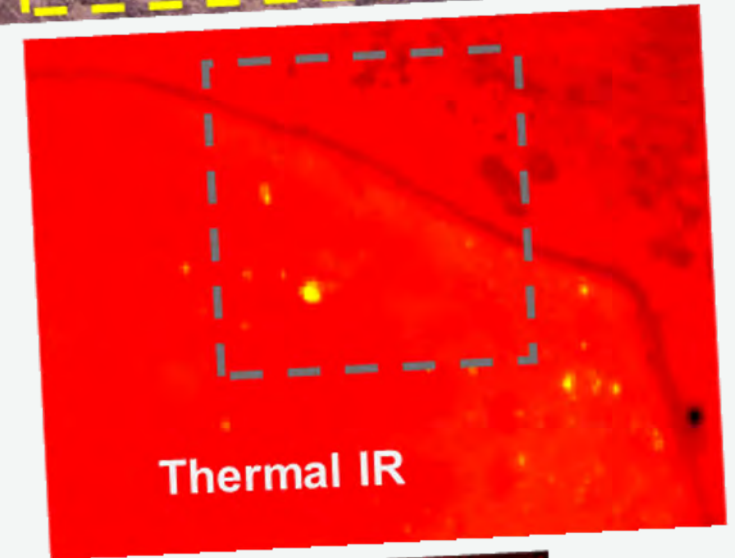
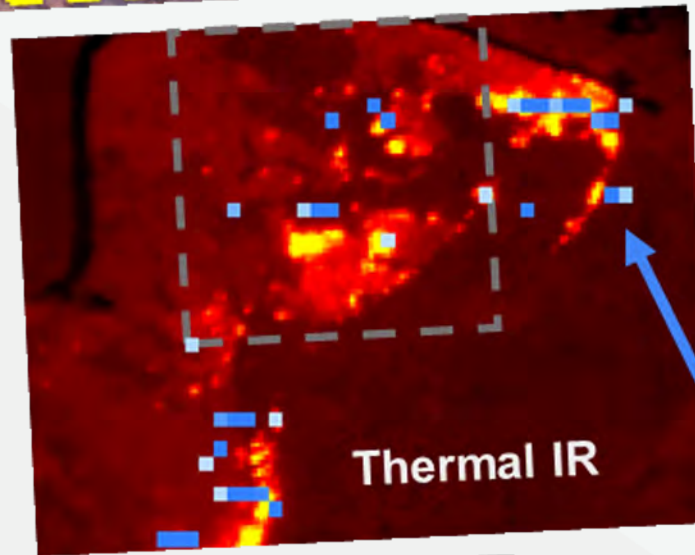
UAS Fire Heat Measurements

Yes, with NightFOX



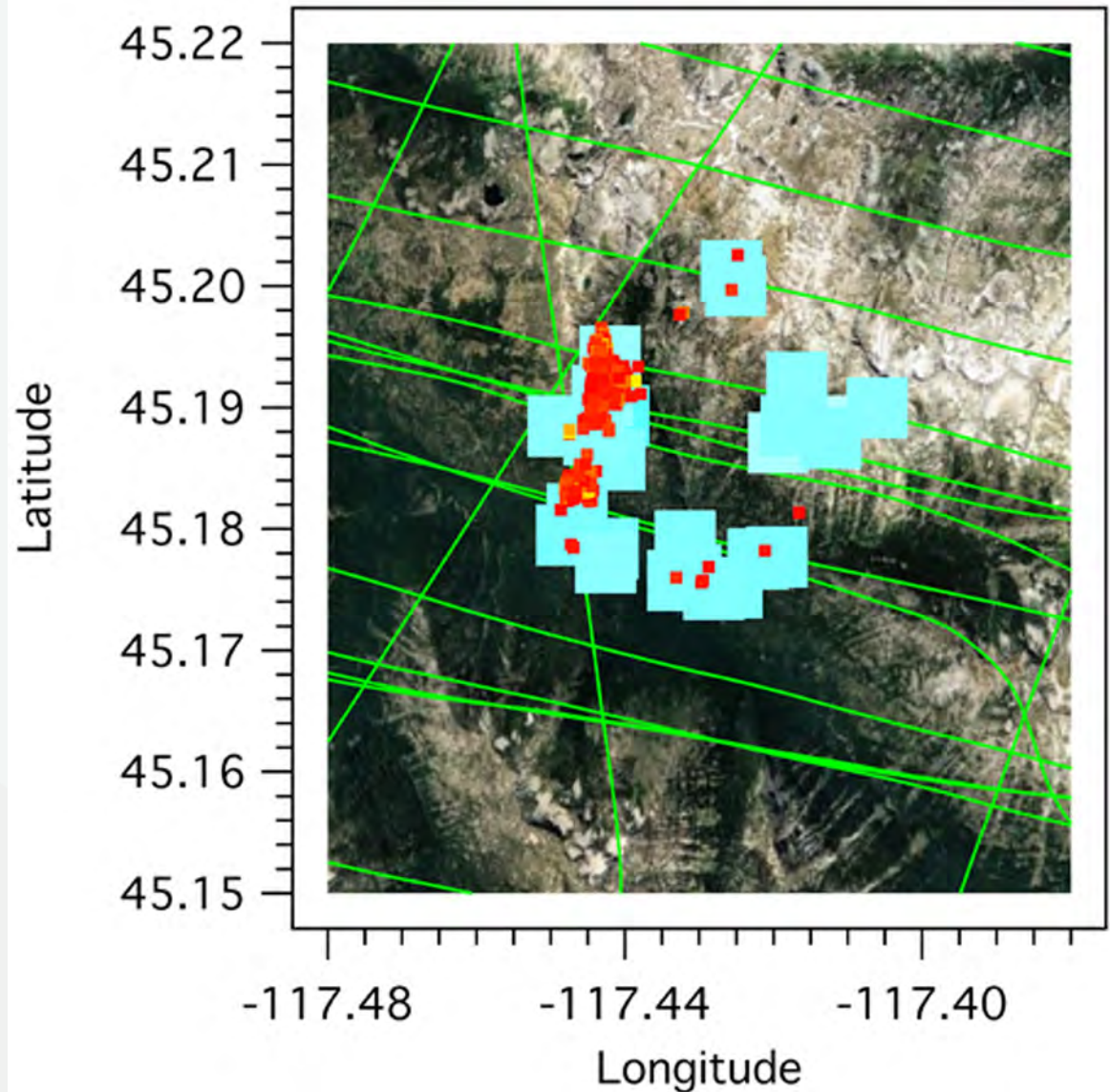


Tested on
real fires



4 μm scanner
detections

Directly
comparable to
satellites

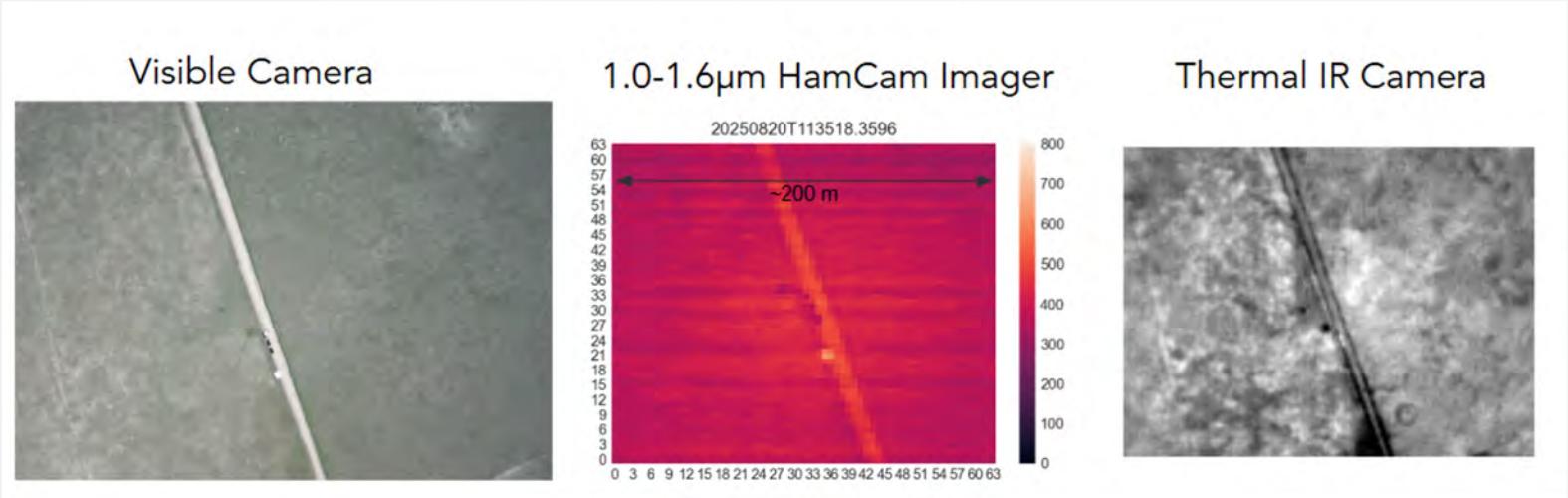


VIIRS Active Fire Detection (+/- 24h) in blue
NightFOX 4 μ m fire detections in red

Development is ongoing



We are planning for future fire deployments



NightFOX
provides unique
multispectral
wildfire data.



Thank you!



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